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MENTAL PREPARATION STRATEGIES  
OF TEAM-SPORT ATHLETES:  
A PRELIMINARY INVESTIGATION

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A Thesis  
Presented to the  
Faculty of  
California State University,  
San Bernardino

---

In Partial Fulfillment for the  
Requirement of the Degree  
Master of Arts  
in  
Psychology

---

by  
Diane Franz Stauble  
December, 1986

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Approved by:

  
Chairperson

1/5/87  
Date

## ABSTRACT

This study was designed to develop and implement an instrument to assess mental preparation strategies of team-sport athletes. The formulation of a conceptual model provided a base upon which such an instrument could evolve. A large item pool was developed through the input of team-sport athletes and the sport psychology literature. Principal factors extraction with varimax rotation was performed on the item pool resulting in a 33 item, five factor instrument (Prepare with team, Prepare alone - individual strategy, Prepare with family/friends - encouragement, Coach Prepares, and Prepare with family/friends - lack of team cohesion) Team - Sport Mental Preparation Questionnaire (TSMP). The TSMP was administered to male and female athletes competing in coacting and interacting team-sports. Results indicated that females on coacting teams reported using individual mental preparation strategies significantly more than any other group. Additionally, females on interacting teams preferred the company of family and/or friends prior to competition more than females on coacting teams. No significant differences were observed for males along this dimension. Suggestions for further research were presented.

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# TABLE OF CONTENTS

Title Page.....	1
Signature Page.....	ii
Abstract.....	iii
Acknowledgments.....	iv
Table of Contents.....	vi
List of Figures.....	viii
List of Tables.....	ix
Introduction.....	1
History.....	1
The Soviet Union and Europe.....	1
The United States.....	3
Current Trends in Sport Psychology.....	4
Mental Preparation.....	5
Athletes in Individual-Sports.....	5
Athletes in Team-Sports.....	8
A Conceptual Model of Mental Preparation In Team-Sport Athletes.....	13
Method.....	17
Construct Representation.....	17
Part 1: Team-Sport Mental Preparation Survey.....	17
Part 2: Literature Review.....	19
Part 3: Personality Measure.....	21

Instrument Formation.....	22
Subjects.....	23
Results.....	26
Test Development.....	26
Preliminary Analysis.....	26
Factor Identification/Construct Validity.....	26
Item Analyses/Internal Consistency.....	30
Intrascale Equivalence.....	30
Interscale Equivalence.....	31
Practical Considerations.....	31
TSMF Version 2.....	32
Interscale Correlations.....	33
Test Analysis.....	35
Discussion.....	38
Test Development.....	38
Group Differences.....	42
Interacting versus Coacting.....	42
Gender Differences.....	43
Personality Differences.....	44
Comparison with Previous Research.....	44
Appendix A.....	47
Appendix B.....	49
Appendix C.....	61
References.....	67



## LIST OF FIGURES

Figure 1.	Conceptual Model of Mental Preparation of Team-Sport Athletes .....	14
Figure 2.	Expanded Conceptual Model of Mental Preparation of Team-Sport Athletes .....	20
Figure 3.	Revised Conceptual Model of Mental Preparation of Team-Sport Athletes .....	41

## LIST OF TABLES

Table 1.	Structure Matrix: Varimax Rotation	
	Analysis .....	28
Table 2.	Internal Consistency of the TSMP .....	34

## INTRODUCTION

### History

Sport psychology, defined as "the science of psychology applied to athletes and athletic situations" (Singer, 1980 P. 1), is considered to be a new field of study in the United States. However, psychology has been an integral part of sport since the early 1900's in other parts of the world, particularly in the Soviet Union and its satellite countries (Cratty, 1983; Geron, 1983; Singer, 1980).

The Soviet Union and Europe. The writings of Peter Lesaافت in the early 1900's mark the beginning of sport psychology in the Soviet Union (Cratty, 1983). During this same period of time (1913) a discussion of the need for psychological help in competitive sports took place during a Congress for psychology and physiology of sport organized in Lausanne, Switzerland by Baron Pierre de Coubertin, the initiator of the modern Olympic Games (Geron, 1983). More specifically, de Coubertin believed that mental development and physical development were inseparable (Stauble, 1980). Furthermore, in Germany (1921), Schulte published three books relating

psychology and sports, the first entitled Body and Soul in Sports: An Introduction to the Psychology of Physical Exercise (cited in Cratty, 1983).

Sport psychology began to be considered a scientific field in Europe as laboratories and institutes devoted to the study of the psychology of sport were established in the Soviet Union during the 1920's and 1930's. By 1930 a scientific research institute for the study of the psychological and physiological dimensions of sport was established in Moscow (Browne & Mahoney, 1984; Cratty, 1983). In the late 1930's Peter Roudik, the father of Soviet sport psychology, outlined guidelines for the study of sport psychology, emphasizing practical applications. The applied focus has continued to the present in the Soviet Union (Cratty, 1983; Geron, 1983).

Interest in sport psychology expanded to many countries during the period between 1941 and 1965 as greater exposure and knowledge increased. In Eastern European countries, sport psychology became centralized, organized, and unified. It was supported by government institutions and organized under chairs of research departments. Soviet sport psychology began to serve as the model for some other Eastern European countries through the disbursement of reading material, visiting lecturers, and students from various countries traveling to the Soviet Union for training (Browne & Mahoney, 1984).

The United States. Interestingly, the origin of sport psychology in the United States and Western Europe is markedly different from that of Eastern Europe. The first known publication in the United States was in 1898 by Tripplett concerning the role of audience effects on competitive bicycling (Browne & Mahoney, 1984; Wankel, 1984). In 1918 University of Illinois psychologist Coleman Griffith, the father of sport psychology in the United States, began formal investigations on the psychological aspects of sport. Griffith's accomplishments include over 40 articles and two books, The Psychology of Coaching and Psychology of Athletics (1928 and 1930). He also organized and directed the first sport psychology laboratory (Browne & Mahoney 1984; Cratty, 1983; Singer, 1980).

However, this early United States involvement in sport psychology was characterized by a different philosophy than that of the Soviet Union, mainly a lack of support from both academicians and the government (Singer, 1980). In the United States and Western Europe the direction of research was separate within each country, and there was little communication among countries (Browne & Mahoney, 1984; Singer, 1980). Finally, in 1965 the first International Congress of Sport Psychology was held in Rome under the chairmanship of Ferruccio Antonelli. At this Congress, there were

500 participants, 230 scientific contributions, and the International Society of Sport Psychology was founded with Antonelli as president. The creation of an international society stimulated international contacts and provided for an important network of information exchange among different countries. Since that time, publications, congresses, and mutual exchange of information have flourished (Browne & Mahoney, 1984).

As a result, the growing interest in sport psychology in the United States has become apparent by the development of college courses and research on relevant topics (Singer, 1980). With the increased focus toward the study of sport psychology, the field has incorporated the Soviet focus of study, of bringing together not only findings but also application (Suinn, 1980).

#### Current Trends In Sport Psychology

Much of recent research in sport psychology is directed to the application of various cognitive factors in competitive sports which aim to stimulate and improve athletic performance (Feltz & Landers, 1983; Geron, 1983). Consequently, coaches, athletes, and psychologists are beginning to recognize the need for a psychological technology that will improve athletic performance and that can be generalized to many athletes

(Taylor, 1981).

Mental Preparation. One cognitive strategy for increasing performance is mental preparation for an upcoming opponent or event (Gould, Weinberg, & Jackson, 1980). Mental preparation is a process involving the acquisition of specific cognitive and intellectual skills, emotional control and appropriate behavioral style (Geron, 1983). Mental preparation is advantageous because it increases the athlete's perceived probability of success by modifying the athlete's and the opponent's perceptions and impressions of each other. Feltz and Landers (1983), in their literature review of the effects of mental practice on motor skills, noted that mental preparation can lower the sensory threshold of the performer and improve performance in a wide variety of motor tasks.

Athletes in Individual-Sports. Caudill, Weinberg, & Jackson (1983) conducted two experiments in an attempt to determine specific mental preparation techniques most frequently used by hurdlers and sprinters from a University track team. Previous to an individual event (100 yard dash or 60 yard hurdle), each subject participated in a psych-up condition and a control condition. Conditions were counterbalanced across

subjects. In the psych-up condition, athletes were instructed to mentally prepare themselves for maximum performance one minute prior to their race. In the control condition an experimenter spoke to each athlete one minute prior to his/her race. In the second experiment an attention-placebo control condition was added in which athletes were informed about the importance of becoming aware of their physiological condition prior to competition. Following the psych-up condition, each athlete responded to an open ended question in which he/she described the psych-up technique used. The following cognitive strategies were identified: Preparatory arousal, imagery, self-efficacy statements, attentional focus, relaxation / distraction, and "religious beliefs". Results indicated that the athletes in the psych-up condition significantly improved their performance as compared to both the control and attention-placebo conditions.

Similarly, Shelton and Mahoney (1978) examined the nature and impact of cognitive "psyching" strategies employed by competitive weightlifters to an analogue strength task. Following a baseline assessment of strength experimental participants were asked to think about ways to psych themselves up for their best efforts. Experimental participants were then instructed



to psych-up for 10 seconds prior to their final strength task. Control participants were instructed to try to improve their performance with no mention of "psyching-up". To minimize spontaneous psyching-up, control participants completed a distracting cognitive task during the pre-performance interval. Results indicated that the participants who "psyched-up" prior to their final strength task showed greater improvements in strength than the control participants.

Iso-Ahola and Mobily (1980) attempted to theoretically define a phenomenon called "psychological momentum" and demonstrate its influence on athletic performance. Psychological momentum was defined as a psychological power which influences interpersonal perceptions and increases athletic performance. Psychological momentum is achieved through success in a competitive situation when competition and winning are important to the athletes. Specifically, athletes who had won in a previous match against another opponent would be more likely to win the next match than one who had lost. This momentum gives the athlete a feeling that he/she has an edge over the opponent. Therefore, Iso-Ahola and Mobily (1980) hypothesized that, when two persons compete against each other, the competitor who has psychological momentum is more likely to win.

Following the examination of archival racquetball tournament data it was found that when two persons competed against each other, the competitor who had psychological momentum was more likely to win. The overall positive effect of psychological momentum was greater for male than female athletes.

Athletes in Team-Sports. The emerging applied sport psychology literature (including the research on mental preparation) has produced an abundance of information on individual performance of motor tasks. However, many of the studies examining mental preparation do not examine athletes performing in athletic competition (Epstein, 1980; Gould, Weinberg & Jackson, 1980; Hoffman, 1983; Weinberg, Gould, & Jackson, 1980; Woolfolk, Murphy, Gottesfeld, & Aitken, 1985). Instead, many studies examine college students performing motor tasks such as throwing darts, leg strength tasks, bar-dips, sit-ups, pull-ups, balance on stabilometer, and golf putt exercises. Furthermore, a large portion of the studies that do include athletes as subjects have focused on athletes performing in individual-sport events (Caudill et al., 1983; Iso-Ahola & Mobily, 1980; Noel, 1980; Seabourne, Weinberg, Jackson, & Suinn, 1985; Shelton & Mahoney, 1978) as opposed to team-sport events.

The study of team-sport athletes is essential to the field of sports psychology since many sport activities involve groups or teams. Notably, social forces exist in team sports subjecting athletes to a variety of psychological variables in addition to those variables that influence individual-sport athletes (e.g., evaluation, attributions, etc.; Browne & Mahoney, 1984; Gill, 1984). For example, team sport performance adds the element of interaction among members which creates a coaction situation affecting individual performance.

Traditionally, success in team sports has been perceived as dependent upon task interdependence among team members. The saying, "there is no 'I' in team" has been used by coaches to emphasize the necessity for team sport athletes to place their own needs and desires secondary to those of the team. Team-sport athletes have been encouraged to judge their performance from a group perspective (Rees, 1980). As a result, the sport psychology literature has focused on the notion that unless a team is cohesive it will not achieve its ultimate performance potential (Williams & Hacker, 1982). Thus, the majority of research on team sports has focused on the relationship between group cohesion and success (Cratty, 1983; Williams & Hacker, 1982; Yukelson, Weinberg & Jackson, 1984).

A more recent trend in sport psychology relating to team sports is to emphasize the importance of both the individual and the team (Browne & Mahoney, 1984). Individual ability as demonstrated by individual performance, is considered to be the most important resource for team sports (Gill, 1984). One avenue that may be used to examine individual performance of team sport athletes is to study the mental preparation techniques used by team-sport athletes to improve performance. Hence, with the complex social psychological variables involved in team sports, mental preparation prior to an event may be a crucial factor in maximizing team performance (Cratty & Carpinter, 1984).

In a study directly involving team-sport athletes (tennis, football, baseball, basketball), Jones (1974) investigated the relationship between team (rankings or final win/loss records) and individual (i.e., singles rankings in tennis, points for and against in football, RBI's and ERA's in baseball, and points, assist, and rebounds in basketball) performance. Results indicated that group performance was positively related to individual effectiveness in all sports. Jones' study suggests that individual performance may be a vital factor to team sport effectiveness.

In an effort towards maximizing individual performance for team-sport athletes, sport psychologists

in the United States have attempted to alter the mental activity of these athletes using similar methods to those described previously for athletes in individual sports (Cratty, Lange, & O'Neill, 1984). Meyers and Schleser (1980) introduced a cognitive intervention strategy to a collegiate basketball player with concentration difficulties. The strategy consisted of relaxation, imagery, and coping self-instructions for seven sessions over a 3-week period. Results indicated an increase in performance as measured by the athlete's points per game, field goal percentage, field goals made per game, and percentage of total team scoring.

Unfortunately, most of the attempts at mental modification of athletes are without baseline data as researchers have neglected to provide information about the athletes mental activity prior to attempting to modify it. It is important in any area of behavioral modification to examine the nature of the behavior one desires to change prior to attempting change (Cratty et al., 1984). Hence, a necessary step to the study of mental preparation of team-sport athletes must consist of an examination of the nature of their mental activity.

Cratty & Carpinter (1984) attempted to examine the mental life of team-sport athletes via an interview-questionnaire method. The responses of first-year

university age football players were contrasted between "skill positions" in which "ball handling" was important and "linemen" in which strength and power were important. Findings indicated that athletes devoted 90-100% of their thoughts to their sport on days of competition. Additionally, approximately half of the athletes reported that they planned their mental life as opposed to simply reacting to random thoughts about their sport. Furthermore, 100% of the athletes reported using a structured plan to reduce anxiety and fear prior to competition. A variety of plans were used including to "think positively", to rehearse the skill prior to the game, to remove themselves mentally from their surroundings, and relaxation techniques. However, the authors did not include in their study specific mental preparation techniques used by the team sport-athletes to increase performance. Hence, investigation encompassing the study of specific mental preparation techniques used by team sport athletes require further exploration.

The purpose of this study is twofold. First, it is designed to develop and implement an instrument directed toward team-sport athletes to determine the following:

- (a) various mental preparation strategies used by team-sport athletes;
- (b) The athletes satisfaction with the strategies they presently use (e.g., would they

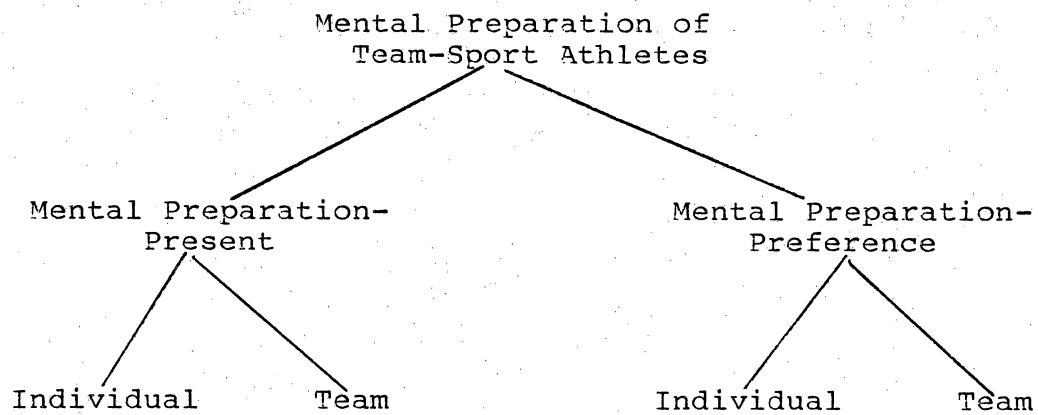
"psych-up" differently if given a choice, i.e. alone versus with the team); and (c) Possible personality variables related to the various mental preparation strategies. Secondly, it is designed to compare these results to previous findings on mental preparation strategies used by individual-sport athletes. It is intended that this study will offer more specific information for sport psychologists attempting to alter the "mental life" of athletes, to better perceive important individual differences in the ways in which team-sport athletes both intentionally and incidentally prepare themselves mentally for competition.

#### A Conceptual Model Of Mental Preparation In Team-Sport Athletes

A conceptual model based on mental preparation of team-sport athletes (see Figure 1) was outlined to form a basis for the development of a team-sport mental preparation questionnaire. The model is divided into two major categories. The first category, Mental Preparation - Present, is designed to examine how team-sport athletes mentally prepare for competition prior to an event. The second category, Mental Preparation - Preference, is designed to examine how team-sport athletes would prefer to mentally prepare for competition prior to an event if given a choice.

FIGURE 1

Conceptual Model of Mental Preparation  
of Team-Sport Athletes





Additionally, mental preparation prior to an event can be focused on from an individual and a team perspective. As an individual, the athlete can mentally prepare for competition using the techniques that individual-sport athletes use (eg. imagery, self-talk, relaxation, and distraction). As a member of a team, the entire team mentally prepares for competition as a unit using techniques such as interaction with other team members or pep-talks from the coach. Thus, four main constructs are identified: (1) Mental Preparation - Present/Individual strategies, (2) Mental Preparation - Present/Team related strategies, (3) Mental Preparation - Preference/Individual strategies, (4) Mental Preparation - Preference/Team related strategies. In addition, it is important to examine not only different mental preparation strategies used by team-sport athletes but possible individual differences in the strategies preferred. One possible measure for these individual differences is to examine various personality traits among the athletes examined. The personality variables of self-sufficiency and conformity were added to examine possible personality differences as related to mental preparation techniques used by team-sport athletes.

It is expected that athletes responses would depend upon the type of team that they participate on, as

follows: (a) Interacting teams; the group effort is the product of team work, combining various skills of team members through interdependent action, i.e., football, soccer, hockey, lacrosse, basketball, volleyball (Leet, James, & Rushall, 1984). (b) Coacting/Interacting teams; members perform in various events requiring either interaction among members or individual performance. For example, track and field athletes perform in both relays (interaction) and field events (individual performance). Other sports include swimming, cycling, and tennis (Straub, 1980).

Therefore, athletes participating in interacting teams would prefer to become mentally prepared with others whereas athletes participating in coacting/interacting teams would prefer to become mentally prepared alone. Furthermore, athletes participating in interacting teams would score high on the conformity scale whereas athletes participating in coacting/interacting teams would score high on the self-sufficiency scale.

## METHOD

### Construct Representation

Carron, Widmeyer, & Brawley (1985) noted that when constructing an instrument to assess any construct, the representation of the construct (i.e., the semantics and the descriptions used) might be more clearly expressed by the actual subjects than by the investigators. Therefore, Part 1 of this study was designed to include team-sport athletes in the process of identifying mental preparation concepts as related to team-sports and determining various statements reflecting the expression of these concepts.

Part 1: Team-Sport Mental Preparation Survey. A Team-Sport Mental Preparation Survey (see Appendix A) was designed for team-sport athletes to obtain input for identifying the concepts and generating statements that express these concepts. Two versions of the team-sport mental preparation survey were formulated to clarify and operationally define two terms that are often interchanged in the sport psychology literature: "mental preparation" and "psych-up." Athletes responded to questions and statements referring to either the term

"psych-up" or the term "mental preparation". Team-sport athletes provided written responses to items such as, (a) Briefly describe what it means to psych-up/become mentally prepared, (b) Describe any psych-up strategy /mental preparation strategy used prior to competition, (c) Describe situations that have a negative impact on your mental state prior to competition, (d) Describe how you spend your time prior to competition and with whom, (e) Describe how you would prefer to spend your time prior to competition if you had a choice. A total of 57 team-sport athletes, both male and female, from a variety of sports (baseball, basketball, cycling, football, lacrosse, tennis, track & field, and volleyball) were surveyed.

Responses concerning psych-up versus mental preparation from survey A and B were listed in the athletes own wording and were compared by two experimenters independently for similarities and differences in the athletes perceptions of the terms. As a result of a 94% agreement between experimenters it was concluded that there were no significantly clear differences observed, whereby, psych-up and mental preparation were defined by the athletes with the same wording and described as the same techniques. Therefore, all responses from both surveys A and B were listed together in the athletes own wording and coded

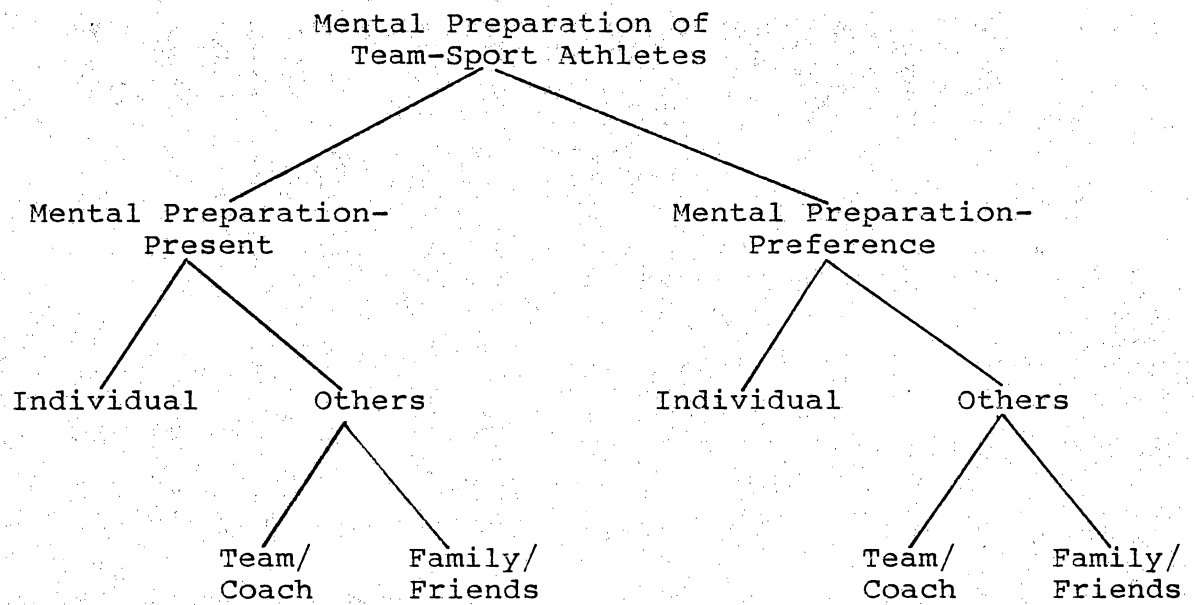
according to whether each response concerned one of the constructs, more than one construct, or another construct altogether.

As a result of this survey, when athletes were asked to specify how they would most prefer to spend their time prior to competition, many of those responding "with others" (as opposed to being alone) indicated family and/or friends rather than team-mates and/or coaches. Consequently, the team-related constructs were revised to include both team/coach and family/friends under the heading of "others". The expanded conceptual model which formed the basis for the Team-Sport Mental Preparation Questionnaire (TSMP) is presented schematically in Figure 2.

Part 2: Literature Review. A literature review was conducted to survey relevant literature on mental preparation of athletes. The review resulted in the examination of 48 articles concerning both individual and team-sport athletes. Mental preparation techniques reported by athletes and questionnaires given to athletes to measure various aspects of mental preparation were examined. The most frequently reported mental preparation techniques and definitions were listed using the athletes own wording when provided. Of the questionnaires available, the most frequently

FIGURE 2

Expanded Conceptual Model of Mental Preparation  
of Team-Sport Athletes



appearing questions were examined for their applicability to team-sport athletes. A total of 97 items resulted from this review and all items were coded as in Part 1.

Part 3: Personality Measure. One of the first areas of study receiving systematic attention in the field of sport psychology is the study of personality. Many researchers and coaches believe that various consistencies in behavior, or predispositions to behave in a particular manner (traits), could influence one's athletic abilities (Silva, 1980). It has been further determined that preference for a particular type of sport might be related to various personality traits (De Man & Blaie, 1982). The personality measure that is most widely used in the sport psychology literature is Cattell's 16 Personality Factor Questionnaire (16 PF). A personality trait included in the 16 PF that is often found among various groups of athletes is self-sufficiency (Dowd & Innes, 1981; Hartung & Farge, 1979; Jerome & Valliant, 1983). People scoring high on the self-sufficiency scale prefer to be alone and do not need the support of group members. This trait corresponds to the constructs relating to individual mental preparation strategies used by team-sport athletes as follows: Mental Preparation - Present/

Individual strategies and Mental Preparation - Preference/Individual strategies. Additionally, Krug & Cattell (1980), in the Clinical Analysis Questionnaire (which includes the 16 PF) define a trait termed conformity. People scoring high on the conformity scale tend to be more conforming to the standards of the group. This trait corresponds to the constructs relating to mental preparation strategies involving team/coach and family/friends as follows: Mental Preparation - Present "Others" related strategies and Mental Preparation - Preference/"Others" related strategies.

#### Instrument Formation

Two researchers and a research assistant used the items generated from Parts 1 and 2 and their own general knowledge of mental preparation to generate an initial item pool of 224 statements relating to the six constructs. The pool of items was coded within each construct for similarity of content. Each of the similar content areas was grouped within each construct. The following conditions were used to agree upon the list of items to be included in the questionnaire: (a) frequency of appearance, (b) amount of ambiguity, (c) use of athletes as opposed to investigator's terminology, and (d) duplication. An agreement of 100%



among the investigators was required to retain an item. As a result, the following number of items were retained: Mental preparation - Present/Individual strategies - 8 items, Mental Preparation - Present/Team related strategies - 8 Items, Mental Preparation - Present/Family and Friends related strategies - 5 items, Mental Preparation - Preference/Individual strategies - 7 items, Mental Preparation - Preference/Team related strategies - 5 items, Mental Preparation - Preference/Family and Friends related strategies - 5 items, Personality/Self Sufficiency - 8 items, Personality/Conformity - 8 items, for a total of 54 items (see Appendix B).

### Subjects

A total of 150 Team-Sport Mental Preparation questionnaires (TSMP) were administered either personally by the investigator or by team coaches. Athletes from the following college teams in Southern California participated in the study; football, basketball, volleyball, baseball, soccer, swimming, tennis, track & field. 101 male and 49 female athletes aged 17-36 (mean age = 21) were surveyed. One male athlete did not complete the questionnaire and was eliminated from the study.

Prior to the administration of the questionnaire,

all athletes signed an informed consent form stating that responses to the questionnaire were confidential and completely anonymous with no identification or exposure of results revealed to other players or coaches. Athletes were informed that the study was designed to inquire about how athletes involved in team sports mentally prepare themselves prior to an event for maximum performance. The following instructions appeared on the front page of the questionnaire: "In this questionnaire, you will be asked to respond to various statements regarding your views and experiences of mental preparation prior to an event (approximately one hour before competition) to improve performance. You will also be asked to respond to various statements regarding your feelings and attitudes about other people. There are no right or wrong answers, just be as honest as possible in your responses by circling the number or letter that best describes your attitude at this time. For those statements requiring numbered responses, notice that a score of 1 corresponds to strong agreement and a score of 5 corresponds to a strong disagreement. You are free to circle any number or letter. Please consider each statement carefully and be sure you fully understand what each item is asking. Please respond to all items in the

questionnaire."

For all questionnaires administered by coaches, each coach was personally contacted by an investigator and given specific instructions to ensure uniformity throughout administration procedures (Yukelson, Weinberg, and Jackson, 1984).

## RESULTS

### Test Development

#### Preliminary Analysis

Principal components extraction with varimax rotation was performed on the TSMP to determine any outliers from the subject pool. With an  $\alpha = .01$  cutoff level, 10 participants (7 male and 3 female) were eliminated from the study (Tabachnick & Fidell, 1983).

#### Factor Identification/Construct Validity

One group of procedures that can be used as a preliminary indicator of construct validity is factor analysis. These procedures examine the intercorrelations among items by reducing them into a smaller set of variables or constructs. Validity is determined when the factors represent the constructs in the proposed conceptual model.

In the present investigation, the factor analysis chosen was principal factors extraction with varimax rotation. The objective of rotation is to attain the most theoretically meaningful and simplest factor structure (Harris, 1975). The principal factors extraction identified five factors. In determining the

structure of these factors, the minimum significant factor loading utilized was .40 (see table 1). As a result, five factors were identified (utilizing 35 items with one item included in factors 1 and 4). Factor 1, Prepare with team (12 items) appears to measure the athlete who becomes mentally prepared best when he/she is with other team members. This is seen as helping the athlete to become excited and feel a sense of team unity. Factor 2, Prepare alone (individual strategy) (9 items), appears to measure the athlete who becomes mentally prepared best when he/she has time alone to concentrate and perform individual mental preparation strategies. Factor 3, Prepare with family/friends (distraction/encouragement) (7 items), appears to measure the athlete who seeks the company of family and/or friends prior to competition to keep his/her mind off of the upcoming event and for encouragement. Factor 4, Coach prepares (4 items), appears to measure the athlete who becomes mentally prepared best when the coach assumes the responsibility of preparing the team as a unit mentally for competition. Factor 5, Prepare with family/friends (lack of team cohesion) (4 items), appears to measure the athlete who seeks the company of family and/or friends for mental preparation because of a lack of team cohesion or unity.

TABLE 1

Structure Matrix: Varimax Rotation Analysis

Scale	Items	Factor				
		1	2	3	4	5
Prepare with team	53	.840				
	56	.923				
	49	.780				
	18	.700				
	3	.697				
	24	.505 <sup>a</sup>				
	39	.502				
	14	.510				
	42	.464				
	10	.411 <sup>c</sup>				
	5	.496				
Prepare alone (individual strategies)	38		.859			
	47		.830			
	2		.748			
	6		.744			
	30		.744			
	25		.715			
	34		.671			
	32		.464			
	35		.456			

Table 1 continued

Scale	Items	Factor				
		1	2	3	4	5
Prepare with	48			.839		
family/friends	29			.826		
(encouragement)	28			.779		
	50			.752		
	40			.715		
	44			.572		
	54			.547 <sup>b</sup>		
Coach Prepares	24				.498 <sup>a</sup>	
	20				.850	
	52				.776	
	16				.711	
Prepare with	11					.700
family/friends	1					.655
lack of team	36					.547
cohesion	23					.411

Note. The values in the matrix are loadings of scale items on the factors. Only items loading highest on their own factor are reported for brevity. Exceptions within a factor are noted.

<sup>a</sup>Item that is included in more than one factor. <sup>b</sup>Item correlating with wrong factor - eliminated from questionnaire. <sup>c</sup>Item correlating poorly with scale scores from other items in the factor - eliminated from questionnaire.

### Item Analyses/Internal Consistency

The purpose of this phase in the test development was to assess the reliability of the above five factors with respect to internal consistency through various item analytic procedures. When items representing a particular scale are summed to yield a score, it is assumed that each item is a relatively unique measure of that scale. Therefore, items in the scale are internally consistent with the construct measured by that scale.

In attempting to achieve high internal consistency, the following statistical procedures and practical factors were considered: (a) increasing reliability by adding and/or deleting items from a scale, (b) ensuring that each item represented only a single construct, (c) ensuring that the scale was of a practically administrable length.

With respect to internal consistency, the following statistical procedures provided bases for item elimination:

Intrascale Equivalence. The first criterion examined whether an item representing one of the five factors correlated highly with the scale scores computed from other items in the factor (intrascale equivalence). If an item correlated poorly with the scale scores computed for its intended factor, it was not considered



to be internally consistent and it was considered for elimination from the scale. From the 35 items identified above, a principal factors extraction analysis identified one item, "I don't like people to say I'm different or peculiar," as correlating poorly with its intended scale, Prepare with team,  $r = .33$ . Therefore, the internal consistency of this item was questioned and it was eliminated from the questionnaire.

Interscale Equivalence. The second criterion was whether an item was more related to its own scale than to other scales (interscale equivalence). If an item correlated highly with both its own scale and with another scale (construct overlap) its internal consistency was questioned and it was considered for elimination from the questionnaire. From the 35 items identified above a Pearson Correlation Coefficient identified one item, "When my coach gives the team a pep talk prior to competition it helps me to become mentally prepared for competition," as correlating highly with two factors; Prepare with team and Coach prepares. However, because these two factors represent one concept from the original model, Mental preparation - Team/Coach, the item was retained in both factors.

Practical Considerations. The third criterion

examined whether an item developed to measure a specific construct from the original conceptual model was included in a factor that was representative of the item's intended construct. An item was eliminated from the questionnaire if it correlated highly with a factor that did not represent the item's intended construct. One item, "Prior to competition I become mentally prepared by concentrating on the importance of the upcoming event," correlated highly with Factor 1, Prepare with team; however, this item was written for the Mental Preparation-Present/Individual strategy construct. Another item, "Prior to competition I become mentally prepared by getting together with other team members to keep my mind off of the upcoming event," correlated highly with factor 3, Prepare with family/friends; however, this item was written for the Mental Preparation-Present/Team construct from the original conceptual model. Because the above two items correlated highly with factors that were not representative of their intended constructs both items were eliminated from the questionnaire.

#### TSMP Version 2

As a result of the above item reduction procedures, the scales in the reduced version of the TSMP (TSMP version 2) were represented by the following number of

items: Prepare with team (PWT), 10 items; Prepare alone (individual strategies) (PA), 9 items; Prepare with family/friends (distraction/encouragement) (FFDE), 6 items; Coach prepares (CP), 4 items; Prepare with family/friends (lack of team cohesion) (FFLTC), 4 items (totaling 32 items, with one item representing two factors as stated above) (see Appendix C).

While the previous statistical criteria and practical considerations determined retention or deletion of items, it was necessary to calculate a maximum Cronbach's alpha for each of the five scales to test the reliability of the items retained within each factor. The respective values for Cronbach's alpha for each scale were: PWTC, .87; PA, .88; FFDE, .88; CP, .82; FFLTC, .67. These results are presented in table 2 which also illustrates a matrix of interscale correlations.

#### Interscale Correlations

Interscale correlations were performed to determine any relationships among the factors. Interscale correlations indicate that some of the scales are moderately related. However, since these relations do not exceed .80, there is no cause for concern about multicollinearity. In fact, they reflect relations suggested by the conceptual model. That is, the scales are assessing constructs that are related but are

Table 2

Internal Consistency of the TSMP

Scales	Pearson Correlation Coefficients					Cronbrach's Alpha
	PWT	PA	FFDE	CP	FFLTC	
Prepare with team	--					.87
Prepare alone (individual strategy)	-.1912	--				.88
Prepare with family/ friends (encouragement)	.2281	.0040	--			.88
Coach Prepares	.5597	.0488	.0154	--		.82
Prepare with family/friends (lack of team cohesion)	.0089	-.0396	.5075	-.0966	--	.67

Note. Reliability values based upon the 32 items selected from the 56 item TSMP (N = 139). Interscale correlations are calculated by correlating a scale score (sum of all items in a given scale with its counterpart for each of the other scales.

sufficiently unique not to be considered redundant (e.g. the scale score for Prepare with team correlated  $r = .56$  with the scale score for Coach prepares and the scale score for Prepare with family/friends (encouragement) correlated  $r = .51$  with the scale score for Prepare with family/friends (lack of team cohesion).

### Test Analysis

To examine the possible effects of gender and sport ((a) interact: volleyball, basketball, baseball, football, soccer and (b) coact: track & field, tennis, swimming) on the five factors of the revised TSMP, a 2 (gender: male, female) x 2 (type of sport: interact, coact) multivariate analysis of variance was performed with the five factor scores as dependent variables. This gender by sport analysis resulted in the following cell sizes: Males in interacting sports, 54; females in interacting sports, 30; males in coaching sports, 39; females in coaching sports, 16.

The analysis yielded a significant multivariate main effect for gender  $F(5,131) = 3.40$ ,  $p < .01$ . Subsequent univariate main effects indicated that gender was important for two factors. First, factor 2, PA,  $F(1,135) = 10.17$ ,  $p < .01$ , indicated that females reported using individual mental preparation strategies significantly more than did males. Second, factor 5,

FFLTC,  $F(1,135) = 4.45$ ,  $p < .05$  indicated that males preferred the company of family and/or friends prior to competition because of a lack of team cohesion more than did females.

The multivariate analysis also yielded a significant main effect for type of sport  $F(5,131) = 9.12$ ,  $p < .01$ . Subsequent univariate analyses indicated three significant factors. First, factor 1, PWTC,  $F(1,135) = 33.65$ ,  $p < .01$  indicated that athletes on interacting teams reported that they are best mentally prepared when they are with their team more than did athletes on coacting teams. Second, factor 2, PA,  $F(1,135) = 33.65$ ,  $p < .01$ , indicated that athletes on coacting teams reported using individual mental preparation strategies significantly more than did athletes on interacting teams. Third, factor 4, CP,  $F(1,135) = 14.27$ ,  $p < .01$ , indicated that athletes on interacting teams reported that they rely on the coach to take the responsibility of helping the entire team to become mentally prepared more than did athletes on coacting teams.

Analysis on the gender by type of sport interaction yielded a significant multivariate effect  $F(5,131) = 6.01$ ,  $p < .01$ . Two significant univariate interactions were revealed for two factors. First, for factor 2, PA,  $F(1,135) = 22.55$ ,  $p < .05$ , Tukey B pairwise comparisons

indicated that females on coacting teams ( $\bar{M} = 16.06$ ) reported using individual mental preparation strategies significantly more than did any of the other three groups ( $\bar{M}s = 23.74, 25.67, \text{ and } 25.87$  for: Males on interacting teams, females on interacting teams, and males on coacting teams, respectively). Second, for factor 3, FFDE,  $F(1,135) = 4.40, p < .05$ , females on interacting teams ( $\bar{M} = 20.50$ ) preferred the company of family and/or friends prior to competition significantly more than females on coacting teams ( $\bar{M} = 23.5$ ). No significant differences were observed for males ( $\bar{M}s = 21.54$  and  $20.69$  for interacting and coacting respectively).

## DISCUSSION

### Test Development

The present research evolved from the belief that there is a need within sports psychology to develop a psychometrically sound instrument to assess mental preparation of team-sport athletes. A logical beginning to such an instrument was the development of a conceptual model from which an instrument could evolve. The input of team-sport athletes and the sport psychology literature provided the information base for item development.

Through a variety of item analytic procedures, a 32 item, five factor instrument (Team-Sport Mental Preparation Questionnaire, TSMP) emerged. As expected, these five resulting factors reflected the constructs in the proposed conceptual model. However, the following adjustments were necessary:

(a) All five factors included questions from both of the main categories, Mental Preparation-Present and Mental Preparation-Preference, therefore, these categories were eliminated. One possible explanation is that the athletes did not see a clear differentiation between the "present" and the "preference" questions when



responding to the questionnaire. Furthermore, the athletes may have never considered any alternatives to their present method of mental preparation. Consequently, they would not respond differently to "present" versus "preference" questions.

(b) The team/coach construct resulted in two factors, one related to the team (Prepare with team) and one related to the coach (Coach Prepares). The Coach Prepares factor may be explained by social learning theory which would describe the coach as a model for the team. According to this theory, a model which is perceived as prestigious (as most coaches are) may play a very important role in influencing the behavior of the athletes. Furthermore, coaches have the potential of powerfully influencing attitudes and values of their athletes (Sage, 1975). This theory suggests that coaches have absolute control over their team and players. If a player wishes to participate he/she must conform to the system set up by the coach (Eitzen & Sage, 1978). Therefore, the athlete may adhere strictly to the coach's methods of mental preparation prior to competition.

When considering the social learning theory as a possible explanation for the Coach Prepares factor, the division of the team/coach construct becomes a logical result. However, because the Coach Prepares factor

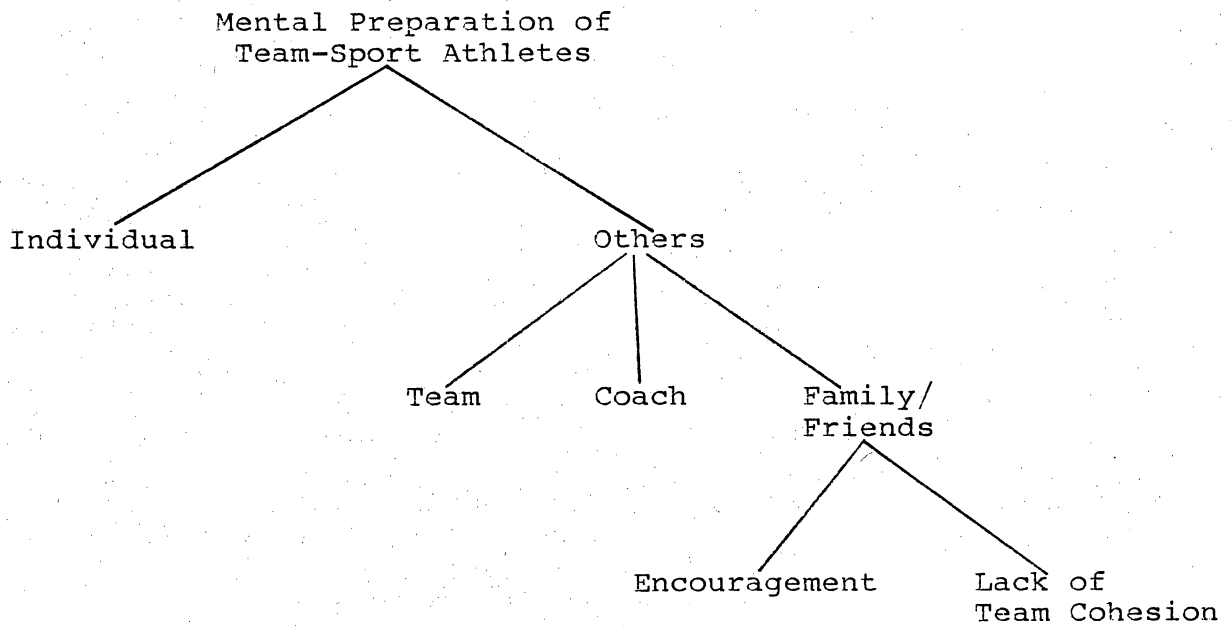
consists of strategies involving the team as a unit (e.g. pep-talks) it was necessary that the Coach Prepares and Prepare with Team factors remain closely related (as indicated by their interscale correlation,  $r = .56$ ).

(c) The family/friends construct resulted in two factors. The first factor, Prepare with family and/or friends (encouragement), described athletes who looked toward their family and/or friends for distraction to reduce nervousness and for encouragement. The second factor, Prepare with family and/or friends (lack of team cohesion) described athletes who looked toward their family and/or friends as an alternative to their team because of a perceived lack of team unity or cohesion. Perhaps these athletes are members of teams which have just formed or teams which have failed to develop a strong social structure. Although these factors possess uniquely different characteristics (as described above), their interscale correlation,  $r = .51$ , reflects a relationship consistent with the conceptual model.

In consideration of the above exceptions, the conceptual model was revised and is presented in figure 3. The revised model divides mental preparation of team-sport athletes into two main categories; (a) strategies involving the athlete as an individual (factor 2, Prepare Alone - individual strategies) and (b) strategies involving "others". The "others" category is

FIGURE 3

Revised Conceptual Model of Mental  
Preparation of Team-Sport Athletes



further divided into three sections; (a) team related strategies (factor 1, Prepare with Team), (b) coach related strategies (factor 4, Coach Prepares) and (c) family/friends related strategies. The family/friends category is further divided into two sections; (a) encouragement (factor 3, Prepare with family/friends - encouragement), and (b) lack of team cohesion (factor 5, Prepare with family/friends - lack of team cohesion).

The resulting TSMP is practical, reflects good internal consistency and assesses a wide variety of sports having heterogeneous characteristics. The next necessary step for further validation is to test the instruments stability across independent samples. This research is currently under way.

### Group Differences

#### Interacting versus Coacting

Findings relating mental preparation techniques to type of sport (interacting versus coacting) show consistencies with the original hypotheses stating that: (a) Athletes on interacting teams would report the use of mental preparation techniques involving "others" (team, coach, family, and friends). The results of this study suggest that athletes on interacting teams reported spending more time with the coach and other team members than athletes on coacting teams. b) Athletes on coacting

teams would report the use of mental preparation techniques involving individual methods. Although athletes on coacting teams ( $M = 23.02$ ) reported the use of individual mental preparation techniques more than athletes on interacting teams ( $M = 24.43$ ), the mean difference is not a substantial one. However, specific gender differences were also found which help to further explain these findings.

#### Gender Differences

Gender by sport differences were also examined resulting in further findings which suggest that females on coacting teams reported the use of individual mental preparation strategies more than any other group. One possible explanation for this finding is that male athletes in team-sports (coacting and interacting) may be exposed to more "traditional" mental preparation techniques in which they are encouraged to judge their performance from a group perspective. Therefore, males on coacting teams would utilize team-related strategies more than individual strategies. Additionally, as expected, females on interacting teams reported seeking the company of family and/or friends for distraction more than females on coacting/interacting teams. However, no differences were found for males. Again, if male team-sport athletes follow the

"traditional" mental preparation techniques, as described above, they would report spending time with their team and/or coach instead of with family and/or friends.

### Personality Differences

Two personality scales were included in the TSMP, one measuring conformity and one measuring self sufficiency. The present study failed to find any personality differences between athletes as related to the use of mental preparation techniques. These results are consistent with a previous study which found no significant differences between individual and team-sport athletes along the personality dimensions of the Eysneck Personality Questionnaire (Kirkcaldy, 1982). Perhaps there are other variables that are better predictors for type of mental preparation techniques used by team-sport athletes such as type of sport and gender. It is also possible that there are other personality traits which would be more appropriate for this type of research.

### Comparison With Previous Research

The present study suggests that there are both similarities and differences in the mental preparation strategies used by individual-sport versus team-sport athletes. The similarities are evident when comparing individual-sport athletes with results from coaching team-sport athletes reported here. Previous findings

suggest that individual-sport athletes reported using mental preparation strategies such as imagery, relaxation/distraction, attentional focus, and self-efficacy statements. The present investigation suggests that athletes on coaching teams reported the use of these same individual strategies more than team related techniques. Furthermore, the differences are evident when comparing individual-sport athletes with interacting team-sport athletes. The interacting team-sport athletes reported the use of mental preparation strategies such as pep-talks, team encouragement, review of team strategy, and team excitement as opposed to the individual strategies mentioned above.

These comparisons suggest that the nature of the sport dictates, to some extent, the type of mental preparation strategy employed by the athlete. Athletes who report the use of individual strategies engage in sports (e.g. weightlifting, cross-country running, tennis, swimming, and track & field) that involve individualized performance at some point during competition. Athletes who report the use of team/coach related strategies engage in sports (e.g. volleyball, basketball, baseball, football, and soccer) that involve the combining of various skills of team members through interdependent action.

Further research is necessary for clarification in the following areas: (1) to assess coaches' attitudes toward mental preparation and to compare their attitudes to those of the athletes on their teams, (2) to test other personality traits as they may relate to mental preparation of team-sport athletes. (3) to determine the effectiveness of the various mental preparation techniques employed by team-sport athletes. Specifically, do the team/coach techniques improve performance of the team, the individual, or both? (4) To assess each sport individually to determine individual differences in mental preparation techniques and subsequent benefits across sports.



## APPENDIX A

### Team Sport Mental Preparation Survey

SEX: M \_\_\_\_ F \_\_\_\_ AGE: \_\_\_\_

SPORT: \_\_\_\_\_

TEAM POSITION: \_\_\_\_\_

1. Briefly describe what it means to become mentally prepared for competition:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. Do you have a mental preparation strategy that you use prior to competition? yes \_\_\_\_ no \_\_\_\_  
If yes, describe the strategy used: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

3. Does your team get together before competition to become mentally prepared as a group? yes \_\_\_\_ no \_\_\_\_  
If yes, describe psych-up strategy used: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

4. Do you feel that becoming mentally prepared prior to competition improves your performance? yes \_\_\_\_ no \_\_\_\_

5. Does your coach give your team a pep talk prior to competition? yes \_\_\_\_ no \_\_\_\_  
If yes, does the pep talk help you to become mentally prepared? yes \_\_\_\_ no \_\_\_\_

6. What percent of your sport do you think involves mental strength?    less than 20%    21-40%    41-60%    61-80%    81-100%
7. What do you concentrate on while you are getting ready for competition? \_\_\_\_\_
8. What are things that throw you off mentally when you are getting ready for competition? \_\_\_\_\_
9. Do you prefer to be alone or with others prior to competition?    alone    with others  
If with others, please specify: \_\_\_\_\_
10. How do you spend your time prior to competition? \_\_\_\_\_
11. If you had a choice, would you spend your time prior to competition differently than you do now?  
yes    no  
If yes, briefly describe how you would prefer to spend your time. \_\_\_\_\_

## APPENDIX B

### Team-Sport Mental Preparation Questionnaire

#### INFORMED CONSENT

I, \_\_\_\_\_, have agreed to participate as a volunteer in a study conducted by Diane Stauble under the direction of Dr. David J. Lutz, Department of Psychology, California State University, San Bernardino. I understand that responses to the questionnaire are confidential and completely anonymous with no identification or exposure of individual responses revealed to other players or coaches without my consent.

Signed \_\_\_\_\_

Date \_\_\_\_\_

## TEAM SPORT MENTAL PREPARATION QUESTIONNAIRE

In this questionnaire, you will be asked to respond to various statements regarding your views and experiences of mental preparation prior to an event (approximately 1 hour before competition) to improve performance. You will also be asked to respond to various statements regarding your feelings and attitudes about other people and events.

There are no right or wrong answers, just be as honest as possible in your responses by circling the number or letter that best describes your attitude at this time.

For those statements requiring numbered responses, notice that a score of 1 corresponds to strong agreement and a score of 5 corresponds to a strong disagreement. You are free to circle any any number or letter.

Please consider each statement carefully and be sure you fully understand what each item is asking.

Please respond to all items in the questionnaire.

If you would like to see a copy of the results, please provide your name and mailing address below.

Name (optional) \_\_\_\_\_

Address (optional) \_\_\_\_\_

SEX: M \_\_\_\_ F \_\_\_\_ AGE: \_\_\_\_\_

RACE: ASIAN \_\_\_\_ BLACK \_\_\_\_ MEXICAN/AM. \_\_\_\_ WHITE \_\_\_\_  
OTHER \_\_\_\_\_

EDUCATION: JUNIOR COLLEGE \_\_\_\_ FRESHMEN \_\_\_\_ SOPHOMORE \_\_\_\_  
JUNIOR \_\_\_\_ SENIOR \_\_\_\_ GRADUATE \_\_\_\_  
OTHER \_\_\_\_\_

PRIMARY SPORT: \_\_\_\_\_

TEAM POSITION: \_\_\_\_\_

HOW MANY YEARS HAVE YOU PARTICIPATED IN YOUR SPORT? \_\_\_\_\_

AT WHAT COLLEGE LEVEL IS YOUR SPORT RANKED?

DIVISION I \_\_\_\_ DIVISION II \_\_\_\_ DIVISION III \_\_\_\_ NAIA \_\_\_\_  
JUNIOR COLLEGE \_\_\_\_

OTHER SPORTS YOU PARTICIPATE IN: \_\_\_\_\_

HAVE YOU BEEN TRAINED IN ANY MENTAL PREPARATION STRATEGIES?

YES \_\_\_\_ NO \_\_\_\_ IF YES, WHO HAS TRAINED YOU? COACH \_\_\_\_

PSYCHOLOGIST \_\_\_\_ TEAM MEMBER \_\_\_\_ OTHER \_\_\_\_\_

please specify

WHAT STRATEGIES HAVE YOU BEEN TRAINED IN? IMAGERY \_\_\_\_

RELAXATION \_\_\_\_ DISTRACTION \_\_\_\_ CONCENTRATION \_\_\_\_

TEAM ENCOURAGEMENT \_\_\_\_ OTHER(S) \_\_\_\_\_

please specify

- Strongly Agree                      Strongly Disagree
- 1                      2                      3                      4                      5

- Strongly Agree                      Strongly Disagree
- 1                      2                      3                      4                      5

- Strongly Agree                      Strongly Disagree
- 1                      2                      3                      4                      5

- Strongly Agree                      Strongly Disagree
- 1                      2                      3                      4                      5

- Strongly Agree                      Strongly Disagree
- 1                      2                      3                      4                      5

- |                 |   |   |                  |   |
|-----------------|---|---|------------------|---|
| all of the time |   |   | none of the time |   |
| 1               | 2 | 3 | 4                | 5 |

- a) true                  b) in between                  c) false

8. Prior to competition my mental preparation strategy is to increase my self confidence by telling myself positive things like "I am prepared to do my best and win."

Strongly Agree

1

2

3

Strongly Disagree

4

5

9. Prior to competition I become mentally prepared by concentrating on the importance of the upcoming event.

Strongly Agree

1

2

3

Strongly Disagree

4

5

10. I don't like people to say I'm different or peculiar.

a) true, I don't

b) uncertain

c) false

Strongly Disagree

1

2

3

4

5

11. Prior to competition I spend time with my family and/or friends because the team doesn't seem to stay together as a group.

Strongly Agree

1

2

3

Strongly Disagree

4

5

12. Prior to competition I become mentally prepared by concentrating on my competitors' level of performance.

Strongly Agree

1

2

3

Strongly Disagree

4

5

13. In designing something, I'd rather work:

a) on my own

b) uncertain

c) with a committee

14. Prior to competition the coach and team should stay together as a unit to encourage team unity.

Strongly Agree

1

2

3

Strongly Disagree

4

5

15. If people are clever enough to get around rules without seeming to break them they should:

a) certainly do so

b) do so if there's  
a special reason

c) not do it  
anyway

- |                 |   |   |   |                  |
|-----------------|---|---|---|------------------|
| all of the time |   |   |   | none of the time |
| 1               | 2 | 3 | 4 | 5                |

- a) yes                      b) in between                      c)no

- Strongly Agree                      Strongly Disagree
- 1                      2                      3                      4                      5

- a) try to plan ahead      b) in between      c) expect problems will take care of themselves when they come up.

- |                 |   |   |   |                  |
|-----------------|---|---|---|------------------|
| all of the time |   |   |   | none of the time |
| 1               | 2 | 3 | 4 | 5                |

- a) yes                      b) in between                      c) no

- a) true, I almost never got in trouble      b) in between      c) false, I got into plenty of trouble

- Strongly Agree                      Strongly Disagree
- 1                      2                      3                      4                      5



24. When my coach gives the team a pep-talk prior to competition it helps me to become mentally prepared for competition.

Strongly Agree

1

2

3

Strongly Disagree

4

5

25. I would prefer to become mentally prepared alone prior to competition to block out any distractions.

Strongly Agree

1

2

3

Strongly Disagree

4

5

26. I like to be with a lot of people, even if I don't have much of a part in what's going on.

a) true

b) uncertain

c) false

27. I think that being free to do what I like is more important than good manners and respect for the law.

a) true

b) uncertain

c) false

28. Prior to competition I like to spend time talking to family and/or friends about a subject other than the upcoming event.

Strongly Agree

1

2

3

Strongly Disagree

4

5

29. I become mentally prepared best when I am with my family and/or friends prior to competition because they help me to relax.

Strongly Agree

1

2

3

Strongly Disagree

4

5

30. I would prefer to become mentally prepared alone prior to competition so I can concentrate on the upcoming competition.

Strongly Agree

1

2

3

Strongly Disagree

4

5

31. I am a fairly strict person who always wants to see the right things done.

a) true

b) uncertain

c) false



40. I would prefer to become mentally prepared with my family and/or friends prior to competition because I stay more relaxed when I am with them.

Strongly Agree

1

2

3

Strongly Disagree

4

5

41. Rate the degree that a discussion by the coach, of the opposing team and a team strategy helps you to become mentally prepared for competition.

Very Helpful

1

2

3

Not At All Helpful

4

5

42. Prior to competition I prefer to become mentally prepared with my team-mates and/or coach because when I am alone I become very nervous.

Strongly Agree

1

2

3

Strongly Disagree

4

5

43. People think I'm too careless and casual even when they like me.

a) true

b) uncertain

c) false

44. Prior to competition I prefer to spend time with my family and/or friends. They help me to become mentally prepared for the upcoming competition because I feel more confident when I am with them.

Strongly Agree

1

2

3

Strongly Disagree

4

5

45. Prior to competition I become mentally prepared by concentrating on competing to my fullest abilities.

Strongly Agree

1

2

3

Strongly Disagree

4

5

46. I worry whether I'm doing the right thing when people leave me to do things on my own.

a) often

b) occasionally

c) rarely

47. I would prefer to be alone prior to competition so that I could become mentally prepared by concentrating on my individual performance.

Strongly Agree

1

2

3

Strongly Disagree

4

5

48. Prior to competition I spend time with my family and/or friends. This is a good mental preparation strategy to distract me from becoming nervous about the upcoming event.

Strongly Agree

1

2

3

Strongly Disagree

4

5

49. Prior to competition I prefer to be with my team-mates and coach for a pep-talk. This is a good mental preparation strategy for me.

Strongly Agree

1

2

3

Strongly Disagree

4

5

50. I become mentally prepared best when I am with my family and/or friends prior to competition because they encourage me.

Strongly Agree

1

2

3

Strongly Disagree

4

5

51. In making up my mind, I put more value on:

a) what is right  
and wrong

b) in between

c) what is practicable  
and workable

52. My coach gets the team together for a pep-talk prior to competition.

all of the time

1

2

3

none of the time

4

5

53. I prefer to spend time with my coach and/or team to mentally prepare prior to competition because they help me to get excited about the upcoming event.

Strongly Agree

1

2

3

Strongly Disagree

4

5

54. Prior to competition I become mentally prepared by getting together with other team members to keep my mind off of the upcoming event.

Strongly Agree

1

2

3

Strongly Disagree

4

5

55. Banks should not be careless. If they made a mistake and didn't charge me for something:

a) It wouldn't be my business to tell them

b) uncertain

c) I'd feel I had to point it out and pay

56. Prior to competition I prefer to become mentally prepared with my team-mates because we give each other energy.

Strongly Agree

1

2

3

Strongly Disagree

4

5

### DEBRIEFING STATEMENT

Thank you for participating in this preliminary investigation designed to study mental preparation of team-sport athletes. This questionnaire is designed to determine both how team-sport athletes become mentally prepared for competition and with whom (alone, with coach and/or team, or with family and/or friends). It is also designed to determine if certain types of athletes prefer certain types of mental preparation techniques.

Following statistical analysis of the questionnaire, those items that do not measure valid for the purposes of this study will be removed or combined to form a more accurate questionnaire.

It is intended that this study will offer more specific information for coaches and sport psychologists attempting to alter the "mental life" of athletes, to better perceive important individual differences in the ways in which team-sport athletes both intentionally and incidentally prepare themselves for competition.

If you have any questions or would like to further discuss this study, you may contact Diane Stauble at (714)370-1569.

Thank you, again, for your time and cooperation.

## APPENDIX C

### Team Sport Mental Preparation Questionnaire Version 2

1. Prior to competition I would prefer to spend time with my family and/or friends but I am required to stay with the team.

Strongly Agree

1

2

3

Strongly Disagree

4

5

2. I prefer to be alone prior to competition to become mentally prepared because when I am around other people it breaks my concentration and could actually hurt my performance.

Strongly Agree

1

2

3

Strongly Disagree

4

5

3. Prior to competition I become mentally prepared by spending time with other team-mates because we cheer each other on to build self-esteem.

Strongly Agree

1

2

3

Strongly Disagree

4

5

4. I prefer to become mentally prepared with my coach because he/she reminds me that I'm the best athlete playing my position for the upcoming event.

Strongly Agree

1

2

3

Strongly Disagree

4

5

5. Rate the degree that you would spend all of your time alone prior to competition to become mentally prepared, if given a choice.

all of the time

1

2

3

none of the time

4

5

6. Prior to competition I spend time with my family and/or friends because the team doesn't seem to stay together as a group.

Strongly Agree				Strongly Disagree
1	2	3	4	5

7. Prior to competition the coach and team should stay together as a unit to encourage team unity.

Strongly Agree				Strongly Disagree
1	2	3	4	5

8. My coach takes the responsibility to make sure that the team is mentally prepared for competition.

all of the time				none of the time
1	2	3	4	5

9. It is important that all members of the team are thinking alike during competition so I prefer that the team stays close together prior to competition to become mentally prepared.

Strongly Agree				Strongly Disagree
1	2	3	4	5

10. Prior to competition my coach gets the team together to discuss the opposing team and a team strategy.

all of the time				none of the time
1	2	3	4	5

11. Prior to competition I prefer the distraction of others (i.e. family and/or friends) around me so I don't have to think about my performance.

Strongly Agree				Strongly Disagree
1	2	3	4	5



12. When my coach gives the team a pep-talk prior to competition it helps me to become mentally prepared for competition.

Strongly Agree                      Strongly Disagree  
1                      2                      3                      4                      5

13. I would prefer to become mentally prepared alone prior to competition to block out any distractions.

Strongly Agree                      Strongly Disagree  
1                      2                      3                      4                      5

14. Prior to competition I like to spend time talking to family and/or friends about a subject other than the upcoming event.

Strongly Agree                      Strongly Disagree  
1                      2                      3                      4                      5

15. I become mentally prepared best when I am with my family and/or friends prior to competition because they help me to relax.

Strongly Agree                      Strongly Disagree  
1                      2                      3                      4                      5

16. I would prefer to become mentally prepared alone prior to competition so I can concentrate on the upcoming competition.

Strongly Agree                      Strongly Disagree  
1                      2                      3                      4                      5

17. As a member of a team, I don't feel that I get enough time to be alone prior to competition to become mentally prepared as an individual.

Strongly Agree                      Strongly Disagree  
1                      2                      3                      4                      5

18. I would prefer to become mentally prepared in complete silence so that I could visualize myself performing perfectly.

Strongly Agree				Strongly Disagree
1	2	3	4	5

19. I use a relaxation technique prior to competition so I won't be so up-tight during competition.

Strongly Agree				Strongly Disagree
1	2	3	4	5

20. Prior to competition I spend time with my family and/or friends because I don't feel that my team is a close unit.

Strongly Agree				Strongly Disagree
1	2	3	4	5

21. Prior to competition I like to be alone in a quiet place to become mentally prepared.

Strongly Agree				Strongly Disagree
1	2	3	4	5

22. Prior to competition I become mentally prepared by getting together with other team members to warm up.

Strongly Agree				Strongly Disagree
1	2	3	4	5

23. I would prefer to become mentally prepared with my family and/or friends prior to competition because I stay more relaxed when I am with them.

Strongly Agree				Strongly Disagree
1	2	3	4	5

24. Prior to competition I prefer to become mentally prepared with my team-mates and/or coach because when I am alone I become very nervous.

Strongly Agree				Strongly Disagree
1	2	3	4	5

25. Prior to competition I prefer to spend time with my family and/or friends. They help me to become mentally prepared for the upcoming competition because I feel more confident when I am with them.

Strongly Agree				Strongly Disagree
1	2	3	4	5

26. I would prefer to be alone prior to competition so that I could become mentally prepared by concentrating on my individual performance.

Strongly Agree				Strongly Disagree
1	2	3	4	5

27. Prior to competition I spend time with my family and/or friends. This is a good mental preparation strategy to distract me from becoming nervous about the upcoming event.

Strongly Agree				Strongly Disagree
1	2	3	4	5

28. Prior to competition I prefer to be with my team-mates and coach for a pep-talk. This is a good mental preparation strategy for me.

Strongly Agree				Strongly Disagree
1	2	3	4	5

29. I become mentally prepared best when I am with my family and/or friends prior to competition because they encourage me.

Strongly Agree				Strongly Disagree
1	2	3	4	5

30. My coach gets the team together for a pep-talk prior to competition.

all of the time

1

2

3

none of the time

4

5

31. I prefer to spend time with my coach and/or team to mentally prepare prior to competition because they help me to get excited about the upcoming event.

Strongly Agree

1

2

3

Strongly Disagree

4

5

32. Prior to competition I prefer to become mentally prepared with my team-mates because we give each other energy.

Strongly Agree

1

2

3

Strongly Disagree

4

5

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